

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Patent Application of

IUCHI et al

Atty. Ref.: 3914-3

Serial No. Unknown

Group:

Filed: January 12, 2001

Examiner:

For: TRANSGENIC PLANTS CARRYING NEOXANTHIN CLEAVAGE ENZYME GENE

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January 12, 2001

Assistant Commissioner for Patents
Washington, DC 20231

Sir:

PRELIMINARY AMENDMENT

In order to place the above-identified application in better condition for examination,
please amend the application as follows:

IN THE CLAIMS

Please substitute the following amended claims for original claims. A copy of original
claims showing revisions is attached.

3. (Amended) The DNA of claim 1, wherein the protein having a neoxanthin cleavage
activity is selected from the group consisting of:
- (a) a protein comprising an amino acid sequence of SEQ ID NOs: 2, 6, 10, 12, 14, or 16;
 - (b) a protein comprising an amino acid sequence in which one or more amino acids in SEQ ID
NOs: 2, 6, 10, 12, 14, or 16 are replaced, deleted, added, and/or inserted; and

(c) a protein encoded by a DNA which hybridizes with a DNA comprising a nucleotide sequence of SEQ ID NOs: 1, 5, 9, 11, 13, or 15 under the stringent condition.

4. (Amended) The DNA of claim 1, wherein the protein having a neoxanthin cleavage activity is derived from *Arabidopsis* plants.

5. (Amended) A transformant plant cell carrying the DNA of claim 1.

8. (Amended) The transgenic plant of claim 6, wherein the expression of a gene encoding a protein having a neoxanthin cleavage activity is increased or decreased compared with its wild type.

9. (Amended) The transgenic plant of claim 6, wherein the amount of abscisic acid is increased or decreased compared with its wild type.

10. (Amended) The transgenic plant of claim 6, wherein stress tolerance is increased or decreased compared with its wild type.

11. (Amended) A propagation material for the transgenic plant of claim 6.

12. (Amended) A vector comprising the DNA of claim 1.

13. (Amended) A method for producing the transgenic plant carrying the DNA of claim 1, comprising the steps of introducing said DNA into a plant cell and regenerating a plant from the plant cell.

14. (Amended) A method for increasing or decreasing stress tolerance in a plant, comprising expressing the DNA of claim 1 in a plant cell.

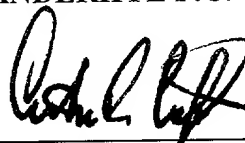
REMARKS

The above amendments are made to place the claims in a more traditional format by removing improper multiple dependencies and to reduce initial filing fees.

Respectfully submitted,

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ORIGINAL CLAIMS SHOWING REVISIONS

3. (Amended) The DNA of [claims 1 or 2] claim 1, wherein the protein having a neoxanthin cleavage activity is selected from the group consisting of:
- (a) a protein comprising an amino acid sequence of SEQ ID NOs: 2, 6, 10, 12, 14, or 16;
 - (b) a protein comprising an amino acid sequence in which one or more amino acids in SEQ ID NOs: 2, 6, 10, 12, 14, or 16 are replaced, deleted, added, and/or inserted; and
 - (c) a protein encoded by a DNA which hybridizes with a DNA comprising a nucleotide sequence of SEQ ID NOs: 1, 5, 9, 11, 13, or 15 under the stringent condition.
4. (Amended) The DNA of [any one of claims 1 to 3] claim 1, wherein the protein having a neoxanthin cleavage activity is derived from *Arabidopsis* plants.
5. (Amended) A transformant plant cell carrying the DNA of [any one of claims 1 to 4] claim 1.
8. (Amended) The transgenic plant of [claims 6 or 7] claim 6, wherein the expression of a gene encoding a protein having a neoxanthin cleavage activity is increased or decreased compared with its wild type.
9. (Amended) The transgenic plant of [any one of claims 6 to 8] claim 6, wherein the amount of abscisic acid is increased or decreased compared with its wild type.
10. (Amended) The transgenic plant of [any one of claims 6 to 9] claim 6, wherein stress tolerance is increased or decreased compared with its wild type.
11. (Amended) A propagation material for the transgenic plant of [any one of claims 6 to 10] claim 6.
12. (Amended) A vector comprising the DNA of [any one of claims 1 to 4] claim 1.

13. (Amended) A method for producing the transgenic plant carrying the DNA of claim 1 [of any one of claims 6 to 10], comprising the steps of introducing [a] said DNA of [any one of claims 1 to 4] into a plant cell and regenerating a plant from the plant cell.

14. (Amended) A method for increasing or decreasing stress tolerance in a plant, comprising expressing the DNA of [any one of claims 1 to 4] claim 1 in a plant cell.